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ANNUAL FOREST INSECT REPORT - 1932

JUDSON M. RHOADS
LASSEN VOLCANIC NATIONAL PARK
OCTOBER 28, 1932

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FILE COPY
FOREST INSECT LABORATORY
UNIVERSITY OF CALIFORNIA
BERKELEY, CALIFORNIA

ANNUAL FOREST INSECT REPORT

Park--- Lassen Volcanic

Date of Field Survey--- Oct.4-26 (intermittent) Time spent of survey---8 da.

Method employed (general observations, sample strip, topographic)--- General observations and 100% cruise for pitch tubes.

What is the general situation in your district?--- With the exception of four areas (two of which have had control work in Oct. 1932) all of the attacks are endemic, although attacks this season have been heavier than normal. There are new outbreaks, both in lodgepole and jeffrey pine types where past infestations are not visible.

If there are any special areas where insect losses are now serious or threaten to become so, answer the following questions, using additional forms if more than one special area is reported:

Name of area affected--- Snag Lake-Cameron Meadows No. acres--- 130

Timber type--- Lodgepole pine Range in elevation--- 6062-6500

Tabulate below your estimate of the number of trees that died from insect attack on this area during the past season:

Tree Species	Mature Trees	Second Growth	Reproduct.
Lodgepole pine	370	80	0

Do the dying trees occur singly or in groups?--- They occur in groups, also in large blocks.

Give average number of trees in group--- 11

Are the losses increasing, decreasing, or about the same as last year?--- The losses have increased this year and the attack is moving up two draws, one draw toward Cameron Meadows and the other one toward Horseshoe (Grassy) Lake.

What insects appear to be responsible for the damage (barkbeetles, borers, defoliators, unknown?)--- Barkbeetle; The Mountain Pine Beetle (Dendroctonus monticolae Hopk.)

Remarks:--- Additional information under epidemic infestations.

Approved---

Submitted--- Oct. 28, 1932

By--- Judson M. Rhoads
Park Ranger

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If there are any special areas where insect losses are now serious or threaten to become so, answer the following questions, using additional forms if more than one special area is reported:

Name of area affected--- Butte Lake-Twin Lake Road. No. acres--- 35

Timber type--- Lodgepole pine Range in elevation--- 6300

Tabulate below your estimate of the number of trees that died from insect attack on this area during the past season:

Tree Species	Mature Trees	Second Growth	Reproduct.
Lodgepole pine	100	40	0

Do the dying trees occur singly or in groups?--- They appear in groups.

Give average number of trees in group--- 7

Are the losses increasing, decreasing, or about the same as last year?--- The losses are about the same as last year--but spread out about 3 times more than last year.

What insects appear to be responsible for the damage (barkbeetles, borers, defoliators, unknown)?--- Barkbeetle; The Mountain Pine Beetle.

Remarks:--- Additional information under epidemic infestations.

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By--- Judson M. Rhoads
Park Ranger

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Lassen Volcanic National Park

SUPPLEMENTARY MATERIAL TO ACCOMPANY ANNUAL FOREST INSECT REPORT

A. Endemic infestations:

1. Headquarters at Mineral.

This is an 80 acre tract with a mixed conifer type. However, since a large percentage of the jeffrey pine is mature and overmature--4 or 5 trees are killed each year from insect attacks.

2. Manzanita Lake Campground.

The timber type here is pure jeffrey pine. The campground covers an area of about 30 acres. It is estimated that 20 infested trees are to be found in the campground proper plus 10 chains around it. This distance of a 10 chain strip around the campground, if in type, is necessary for proper control measures, This area has been free from insect attacks for a number of years.

3. Butte Lake Campground.

This campground is the most important and most widely used of our outpost campgrounds. The cover type is pure jeffrey pine--made up mostly of mature trees. The eastern boundary of the campground merges abruptly into a lodgepole pine type. Unlike Manzanita Lake campground, this area has been subjected to minor attacks for a number of years--but this year the attacks have increased considerably. The campground covers about 35 acres and it will be necessary to go at least 10 chains beyond the outer boundary of the campground for proper control measures--providing the type is continuous. The estimated number of trees is jeffrey pine 15, lodgepole pine 12.

4. Summit Lake-Dersch Meadows campgrounds.

Control measures are now being carried on in this area. Since Dersch Meadows and Summit Lake are approximately one mile apart, it was deemed advisable to cover the territory between the two areas for a distance of 10 chains on each side of the Loop road. The cover type in the vicinity of Summit Lake is composed of lodgepole pine, red fir, western white pine and mountain hemlock. From Summit Lake to Dersch Meadows the cover type is mainly lodgepole pine with some red fir associated in places.

A strip 10 chains wide was taken around Summit Lake proper. On the east side, lodgepole pine was alone considered--whereas in the campground both lodgepole pine and red fir were taken out. There is an epidemic infestation in the red fir of this area. This is dealt with later under "epidemic infestations".

The area covered in the 100% cruise for insect infested trees was approximately 110 acres. Within this area, to date, 18 lodgepole pines and 107 firs have been removed. There are yet 14 lodgepoles and a large number of firs to be taken out--depending upon an appropriation and weather conditions of the fall and early spring. In taking this large number of firs out on the east side of the lake it would lessen consequent attacks--also would improve the sanitary conditions of the campground.

5. Juniper Lake Campground.

Lodgepole pine and red fir are here associated to form the cover type. Most of the lodgepoles in this area are mature and overmature--consequently they are more subject to insect attacks. The attack in 1932 was especially heavy.

The first money of the $300 appropriation was spent on this area early this month. Approximately 50 acres in and around the campground were controlled. A total number of 38 lodgepoles and 13 red firs were removed. However, we do not feel that results will be highly satisfactory owing to the fact that Mr. C. D. Snell's property, approximately 1½ miles north along the lake, will serve as a dispersing center for barkbeetles. In and around his resort, a heavy infestation exists both in lodgepole pine and red fir.

6. Badger Flat Area.

A lodgepole pine cover type extends from approximately one mile north of the Hat creek crossing, on the Immigrant Trail road, to the cinder fields around the base of Cinder Cone. This distance is roughly 3 miles. Since this area of the park is now the direct gateway to Cinder Cone control measures should be considered.

The type is pure--therefore it is probable that epidemic infestations are likely to occur in the near future. An epidemic infestation now exists in this area, approximately 2 miles north of Badger Flat. (To be covered later under "epidemic infestations" re Twin Lakes-Butte Lake road area).

This year finds two new attacks in and around Badger Flat. The two areas cover 15 acres with an estimated number of trees at 45.

7. Lower Kings Creek Area.

This area is plainly visible from the Loop highway. The cover type is red fir. If it is possible to authorize control measures in red fir for the fir engraver beetle this area needs direct attention. As one looks across Kings Creek from the Loop road--this area appears to have been damaged by fire.

The area covers 40 acres and the estimated number of trees is placed at 145, including mature trees, second growth and reproduction.

8. Lost Creek Area.

This area is mentioned because it is on the Loop highway. It can be classed mainly as a mistletoe area--although the jeffrey pine beetle has been working here for a number of years. This year finds no increase over past years. However, this infestation could be decreased with a relatively small expenditure. Total number of acres 8. Estimated number of insect infested trees 5. The cover type is pure jeffrey pine.

B. Epidemic Infestations.

1. Snag Lake-Cameron Meadows Area.

This large area has been in an epidemic state for the past three years. Although it is in the wilderness section of the park at present--it is now serving and will serve as a reinfestation area to the Horseshoe (Grassy) Lake area where recent control measures were carried out. For this reason alone, it should be considered quite strongly.

The insects have killed large blocks of timber in the immediate vicinity of Snag Lake proper and threaten to do likewise in Cameron Meadows.

These two areas, Snag Lake and Cameron Meadows, are approximately one mile apart. The condition existing between the two is critical. The beetles are gaining a tremendous foothold in several spots. Since the pure lodgepole pine type is continuous--rapid progress is to be expected in their dispersal.

Statistics are to be found on the special forest insect report form under Snag Lake-Cameron Meadows area.

2. Butte Lake-Twin Lakes road area.

The mountain pine beetle has also been working in this area for a number of years. This year finds an epidemic. Since a pure lodgepole pine type extends through this area to Badger Flat, as mentioned previously, it is possible that the Badger Flat infestation and this infestation will connect unless control measures are applied.

Infestations of late years have resulted in a condition of high fire hazard at this point since a large number of old insect-killed trees have fallen.

Statistics are to be found on the special forest insect report form under Butte Lake-Twin Lakes road area.

3. Summit Lake Campground Area.

Here, in this area, an epidemic exists in red fir. The fir engraver beetle is responsible for the condition. Under campground sanitation, 107 firs have been removed and burned this month. The trees ran in diameters of from 2 to 26 inches. Approximately ½ of the area has been covered and it is estimated that there are over 100 firs remaining on the other half. These should be removed if an appropriation can be secured for this purpose. All of the trees examined had a very heavy brood of larvae. If these remaining trees are left they will serve as a reinfestation to the area where control measures have been applied. Since Summit Lake is our most popular campground--this condition should be remedied.

4. Horseshoe (Grassy) Lake Campground.

Here, an epidemic existed. This was classed as an epidemic because the heaviest infestation existed in and around the campground and Fireguard station. Control measures were carried out in this area early this month. A total number of 76 lodgepoles were removed over an area of 40 acres. The infestation was in spots. The largest number of trees removed from one spot was 14.

C. Methods employed in control work.

The crew consisted of 1 spotter, 2 fallers, 2 limbers and buckers and 1 tractor driver.

1. Spotting.

Since none of the trees was fading--it was necessary to spot by means of pitch tubes and fraas (bits of wood particles). Therefore every tree had to be examined. The trees to be taken out were blazed on two sides, marked, and numbered by means of paper tags. The following notes were recorded for each tree: tree number, species, insect, diameter breast high, number of 16 foot logs to a top diameter of 8 inches, intensity of infestation and remarks. Under remarks the location of each tree was recorded. Measurements of diameters and heights were taken by means of a Biltmore stick.

2. Felling, limbing, bucking, transporting and obliteration work.

The fallers would obtain the location of the trees from the spotter. They would collect the t ags and in the evening turn them in to the spotter. The trees would then be accounted for.

All of the trees were limbed and the limbs piled for burning.

When trees had to be gotten out of areas where they would be visible they were bucked up into lengths suitable for handling.

Transporting or snakeing was accomplished by means of a Fordson tractor. Also the decking was done by means of this equipment.

Immediat#ely in the campgrounds and along roads and trails the furrows left from snakeing the logs were obliterated by means of shovels and rakes.

3. Treating the logs. ***

Where logs had to be disposed of they were snaked out to an opening, decked, and the entire pile burned. Logs that could be hidden were dragged into an opening and the surface scorched. This was accomplished by means of an Indian back pump with a spray nozzle attachment. The fuel used was kerosene. The entire log was sprayed with kerosene and lighted.

Trees that were entirely out of sight were limbed and the entire bole of the tree kerosene treated.

All of the brush piles were burned. Oil drained from crankcases was used to start the piles.

Like nearly all sections of the Sierras and Cascades, this area is also suffering a more severe attack than normally this year. It means that funds for insect work will be necessary to carry out proper control measures.

D. Cost Table.

Area	No. acres	No. of trees		Cost per tree	Cost per acre	Cost per M ft. BM	Tot. cost
		Lodgepole	Fir				
Grassy Lake	40	76	0	$2.09	$3.97	$4.96	$158.69
Juniper Lake	48	38	13	$2.22	$2.36	$5.72	$113.35
							272.04

*** All red fir logs were piled and completely burned.